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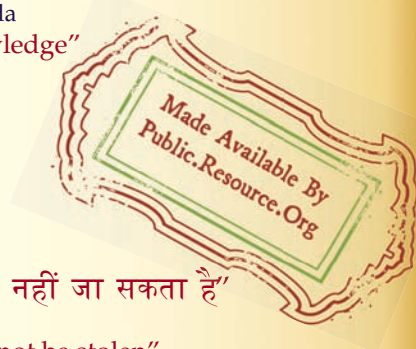
IS 684 (1962): Method for determination of nep count in cotton [TXD 1: Physical Methods of Tests]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 684 - 1962

(Reaffirmed 2004)

Indian Standard

METHOD FOR DETERMINATION OF NEP COUNT IN COTTON

(Second Reprint JANUARY 1986)

UDC 677.21 — 121 : 620.168.2

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Indian Standard

METHOD FOR DETERMINATION OF NEP COUNT IN COTTON

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 14 August 1962, after the draft finalized by the Textile Standards Sectional Committee had been approved by the Textile Division Council.

0.2 A nep is a small aggregate of entangled fibres rolled up into a compact mass, generally of size not larger than a common pin-head, (say about 2 mm in diameter) present in cotton. The neps show up as specks in yarns and fabrics and mar their appearance. It is, therefore, desirable to have a method for measuring the number of neps present in cotton.

0.3 Taking into consideration the views of producers, consumers, and testing authorities, the Sectional Committee responsible for the preparation of this standard felt that it should be related to testing practice followed in the country in this field. These considerations led the Sectional Committee to derive assistance from the following publications:

NANJUNDAYYA, C. AND IYENGAR, R. L. N.

A Device for Counting Neps in Cotton Lint and Yarn. Tech. Leaflet No. 42 of the Indian Central Cotton Committee, Technological Laboratory, Bombay (1956).

NANJUNDAYYA, C., IYENGAR, R. L. N., HARIRAO NAVKAL AND RAJARAMAN, S. Standardization of the Nep-Counting Technique for Cotton Lint. Tech. Bulletin Series B. No. 59 of the Indian Central Cotton Committee, Technological Laboratory, Bombay (1958). (Also published in the Indian Textile Journal, January 1958, pp 222-232.)

0.4 Metric system has been adopted in India. Therefore, in this standard all quantities and dimensions have been expressed in this system.

0.5 In reporting the result of a test made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960 Rules for Rounding Off Numerical Values (Revised).

1. SCOPE

1.1 This standard prescribes a method for determination of number of neps present in cotton. The method is applicable to cotton material at different stages of spinning process from raw cotton up to and including sliver.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Lot — The quantity of cotton material purporting to be of one definite type and quality.

2.2 Nep — A small knot like aggregate of tightly entangled cotton fibres, usually not larger than a common pin-head (about 2 mm in diameter).

NOTE — To illustrate neps, Fig. 1 has been included in the standard. In this figure, some of the typical neps have been identified by means of squares surrounding them.

2.3 Nep Count — The number of neps per unit weight of material, usually expressed in terms of number of neps per gram.

3. SAMPLING

3.1 Gross Sample — From different portions of the lot, draw a **gross sample** so as to be

representative of the lot and weighing not less than 100 g.

3.2 Reduced Sample — Spread the gross sample evenly on a level surface in the form of a square slightly greater than 1×1 m. Over this, place a metallic frame of wire of 1×1 m (inside dimensions) divided into 25 sub-squares. Pull out at random from each sub-square one bunch (or more) of fibres so as to obtain a total quantity of 300 to 500 mg, but taking care to see that:

- the fibres are drawn without any bias in favour of or against any particular place within a sub-square; and
- the fibres drawn from each sub-square weigh about 15 mg.

The fibres thus obtained shall constitute the **reduced sample**.

3.3 Test Sample — Divide the reduced sample into four approximately equal parts. Open out one part carefully by hand and lay it evenly on a black cardboard measuring about 20×10 cm. Cover the cardboard with a perspex sheet (of the size of the cardboard) with one centimetre squares marked on it. Similarly, prepare three more black cardboards taking for

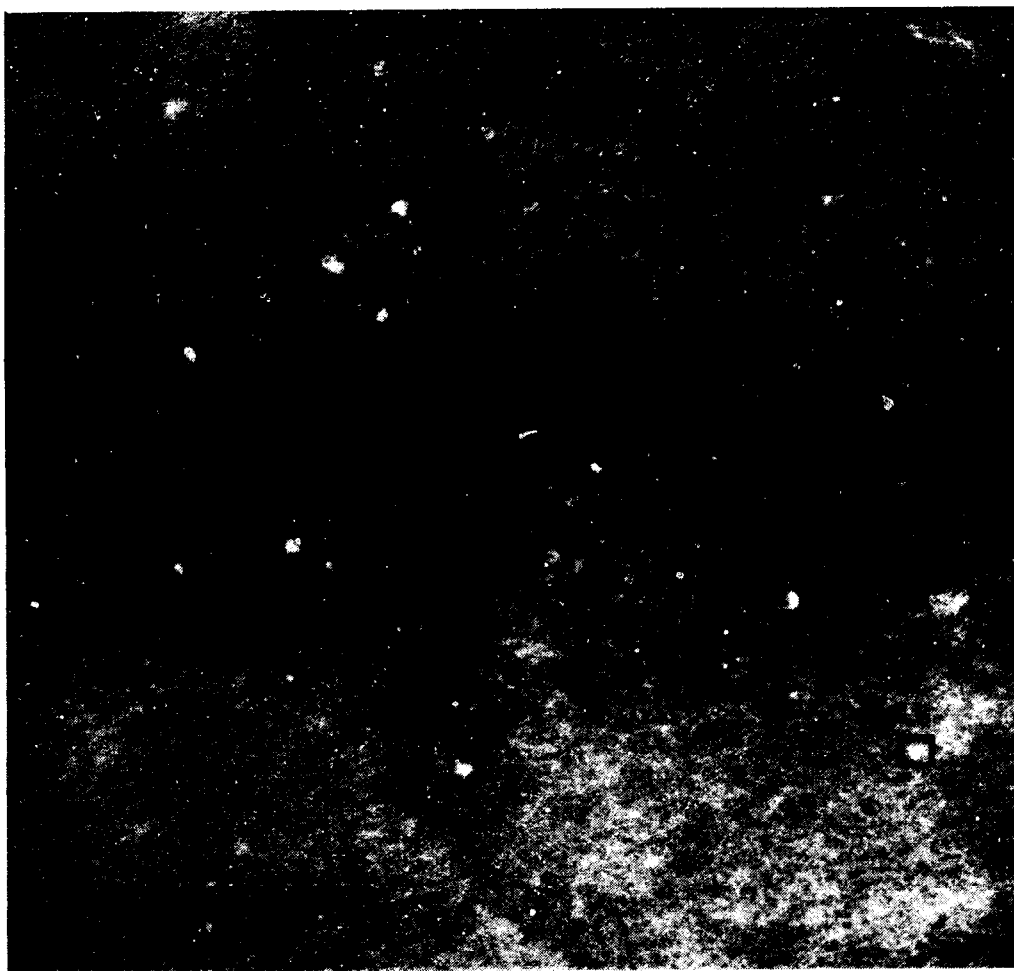


FIG. 1 FULL SIZE PHOTOGRAPH ILLUSTRATING THE NEPS

the purpose of each cardboard, the material in any one of the three remaining part of the reduced sample. Each cardboard so prepared shall constitute a test specimen. The four cardboards taken together shall constitute the test sample.

4. APPARATUS

4.1 For the purpose of this test, the following apparatus shall be used:

- a) Any convenient magnifying device (like the microprint reader) with a magnification of five or more shall be used.

NOTE — A magnifying device suitable for the purpose of the test is described in Technological Leaflet No. 42 of the Indian Central Cotton Committee, Technological Laboratory, Bombay.

- b) A suitable balance.

5. PROCEDURE

5.1 Mount one of the test specimens (see 3.3) on the magnifying device. Square by square and row by row, examine the whole cardboard and count the number of neps (see 2.2 and Fig. 1) present. Similarly, determine the

number of neps in the other three test specimens. Calculate the total number of neps present in the four test specimens.

5.2 Collect all the cotton fibres of the four test specimens and weigh them.

5.3 Calculate the nep count by the following formula:

$$\text{Nep count} = \frac{N}{W}$$

where

N = number of neps present in all the four test specimens (see 5.1); and

W = weight, in grams, of cotton material in the four test specimens.

6. REPORT

6.1 The report shall include the following:

- a) Nep count of the material;
- b) Type of material (whether raw cotton, or card sliver or drawing sliver etc); and
- c) Actual magnification of the device used for counting neps.

